Notice of Allowability	Application No.	Applicant(s)	
	10/070,926	MOLLER ET AL.	
	Examiner	Art Unit	
	Sean E. Conley	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *3/13/02, 7/10/02*.

2. ☒ The allowed claim(s) is/are *1-8*.

3. ☒ The drawings filed on *7/10/02* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☒ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 7/10/02, 9/5/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Oath/Declaration

Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Sweden on September 17, 1999. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath, declaration or application data sheet does not acknowledge the correct filing date of the foreign application. A new oath, declaration or application data sheet is required in the body of which the present application should be identified by application number and the filing date. Specifically, the oath incorrectly claims a foreign priority date of September 17, 2000. The correct foreign priority date is September 17, 1999.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Patrick Keane on April 29, 2005.

The application has been amended as follows:

In the title, "sterilisation" has been deleted and --sterilization-- has been inserted.

In claim 1, line 1, "sterilisation" has been deleted and --sterilization-- has been inserted.

In claim 1, line 2, "sterilisation" has been deleted and --sterilization-- has been inserted.

In claim 1, line 4, "sterilisation" has been deleted and --sterilization-- has been inserted.

In claim 1, line 30, "sterilised" has been deleted and --sterilized-- has been inserted.

In claim 2, line 1, "it" has been deleted and --the system-- has been inserted.

In claim 3, line 1, "it" has been deleted and --the system-- has been inserted.

In claim 7, line 2, "sterilised" has been deleted and --sterilized-- has been inserted.

In claim 8, line 2, "sterilised" has been deleted and --sterilized-- has been inserted.

Allowable Subject Matter

Claims 1-8 are allowed over the prior art.

The following is an examiner's statement of reasons for allowance: The prior art, alone or in combination, fails to teach or suggest the applicant's claimed invention.

Specifically, the prior art fails to teach a system for monitoring and control in the sterilization of an object which, for the purpose of sterilization, is electron irradiated from an electron radiation source past which the object is led or conveyed in order to receive a sufficient irradiation dose for the intended sterilization effect, wherein it includes:

A detector for sensing the current speed of the object at the electron irradiation source and generating an electric output signal which corresponds to the sensed speed;

A speed/voltage converter which has an input in communication with the detector for receiving the output signal from the detector and generating a control signal proportional to a norm value for filament current to the electron radiation source as a response thereto;

A high voltage/filament current generator which has an input for receiving a set norm value signal and, for generating in response thereto a high voltage at a first output in communication with the electron radiation source, a filament current at a second output in communication with the electron radiation source, an output signal for pertinent high voltage at a third output, and an output signal for pertinent filament current at a fourth output;

A process control unit which has a first input in communication with the converter for receiving the control signal from the converter, a second input in communication with a third output at the generator for receiving the generated output signal for pertinent high voltage, a third input in communication with the fourth output at the generator for receiving the generated output signal for pertinent filament current, said process control unit being disposed to compare the received electric signals with corresponding norm values pre-programmed in the process control unit and generating a positive electric comparison signal when the received signals correspond to the pre-programmed norm values, and a negative comparison signal when the received signals deviate prohibitively from the pre-programmed norm values in the comparison;

An ejector mechanism at or downstream of the electron radiation source in communication with the process control unit, for receiving the generated comparison signal from the process control unit, said ejector mechanism being disposed to be activated for ejecting the sterilized objects when the received comparison signal is negative, and to be inactivated when the received comparison signal is positive.

The closest prior art to the applicants claimed invention is Clark et al. (WO 97/43915) and Shirakawa (JP 11-169438 A).

Clark et al. disclose a control system for a pulsed light sterilization of packages and their contents. A photodetector (102) along with a suitable monitor and control circuitry (106) monitors and controls fluence-per-flash within a prescribed spectral bandwidth, total energy over some preselected treatment time, spectral energy within a preselected treatment time, spectral energy within a preselected bandwidth over time, and/or any of a range of other detectable parameters. In a similar fashion the pulse parameters involved in energizing the flash lamp (104), such as current, peak current, current waveshape, voltage, voltage waveshape, and/or any other range of other pulse parameters may be monitored and controlled by the monitor and control circuitry (106). Electronic output of the monitor and control circuitry (106), in combination with the appropriate programmatic control by a personal computer (108), can be used to monitor, adjust, and document pulsed light treatment. For example, ultraviolet output from the flashlamp (104) can be coupled to lamp voltage and current operating circuitry in the monitoring and control circuit (106) through appropriate feedback/control system circuitry. By monitoring ultraviolet output, system performance can be monitored, adjusted, and maintained each in preselected minima and maxima by coupling this information to the feedback control circuitry. Additionally, the system includes fault detection circuitry which is used to summon an operator, shut down the system, or otherwise perform system oversight and alert operations should the parameters fall below or outside desired levels (see pages 35, line 28- page 37, line 13).

However, Clark et al. does not teach or suggest a monitoring and control system arranged in a system as disclosed by the applicant and does not teach a detector for sensing the speed of the objects on a conveyor, a speed/voltage converter, a high voltage/filament current generator, or an ejector mechanism.

Shirakawa discloses an electron beam irradiation device that sterilizes objects on a conveyor. The device has a control system comprising a current control means (18) and a speed control means (17) on the conveyor. The electrons emitted from an electron gun (3) are adjusted based upon the size and shape of the object to be sterilized. Further, by providing the speed control means of the conveyor (2) the carrying speed of the conveyor (2) an be increased or decreased in case the object to be sterilized exceeds a range controllable by the current control means (18). Therefore, the energy value and irradiation amount of the electron beams irradiated to the object (1) to be sterilized can be adjusted accordingly.

However, Shirakawa also fails to teach or suggest a monitoring or control system arranged in a system as claimed by the applicant. Additionally, Shirakawa does not teach or suggest a speed/voltage converter or a high voltage/filament current generator.

None of the prior art teaches or fairly suggests the applicant's claimed invention as recited in claim 1. Therefore, claims 1-8 are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Conley whose telephone number is 571-272-8414. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/29/2005
SEC
S.E.C.

JOHN KIM
SUPERVISORY PATENT EXAMINER